



PipeSystemConsult GmbH Company Presentation

Company Profile

- PipeSystemConsult (PSC) is an independent engineering company providing flexible and cost-effective consulting services to clients in the Pipeline, Power Generation and Industrial Energy sectors.
- Our main areas of expertise are:
 - Conceptual and Feasibility studies for new projects, retrofits and/or system expansion, focusing on:
 - Definition of main systems and plant concepts
 - Cost estimates
 - Financing concept (including tariff modelling, net back analysis)
 - Authority approval and permitting procedures
 - Procurement and construction strategies
 - Risk analysis, environmental and safety issues
 - Specifically for pipeline projects, evaluation of potential corridors using constraint-based route engineering
- Engineering / Project Management through all project implementation stages covering basic/detailed design, procurement, construction, commissioning and operation
- Specialised consulting services related to Risk Analysis, including HAZOP, HAZID, LOPA, QRA and Integrity Audit / Management



Services

General Consulting Services

- Feasibility and conceptual study
- Project / Engineering management
- Detailed design, specification
- Authority approval and permitting procedures
- EU tendering, procurement, vetting, expediting
- Construction supervision
- Commissioning, start-up, support during operation
- Risk analysis (HAZOP, HAZID, LOPA, QRA)
- Expert Witness Services
- Technical translations (German / English)



Pipeline Transport / Storage

- General consulting services
- Hydraulic analysis / modeling of pipeline transport trunk lines and networks using Stoner, PIPESIM, HYSYS, Pipeline Studio Gas (TGNet)
- Preparation of bankable feasibility studies, including tariff modeling
- Constraint-based route engineering using GIS-database tools
- Authority approval / permitting procedures
- Due diligence, peer review
- Integrity audit



Services

Power Generation

- General consulting services for Combined Cycle and Cogeneration for Industrial facilities
- Development of mass / energy balance, pinch analysis
- Pipework modeling using 3-D tools
- Balance of plant, utility planning



Industrial/ Renewable Energy

- General consulting services for Biogas, Dairy, Forestry, Pharmaceutical
- Energy efficiency audits
- Tariff negotiations



Projects

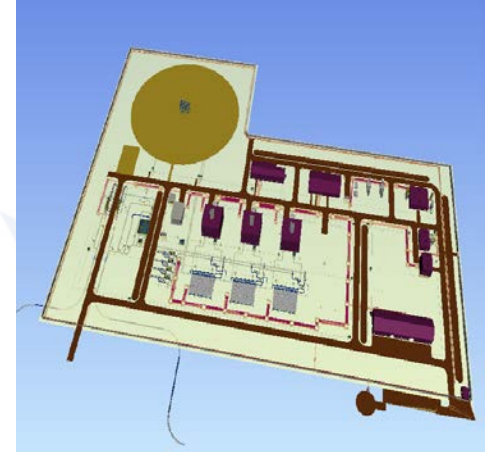
NABUCCO WEST GAS PIPELINE, BULGARIA, ROMANIA, HUNGARY, AUSTRIA

Project Owner: Nabucco International Company (NIC)

Timeframe: 2012 - 2013

Key data about project: FEED Design of 1327 km 48" natural gas pipeline, capacity 23 bNcmy, including 14 compressor stations, 3 border metering stations, 3 offtake metering stations in four countries

Scope: Provision of support to Owner in process/mechanical discipline to overview the design of FEED Engineer in relation to above-ground installations, including participation in HAZOP/HAZID, review and approval of process / mechanical documentation



INTEGRATED OPEN SEASON (IOS) COMPRESSOR STATIONS, GERMANY

Project Owner: Gasunie Deutschland

Timeframe: 2009-ongoing

Key data about project: Concept Selection, Basic Design and FEED of five compressor/metering stations (4x brownfield, 1x greenfield) in North Germany (installed capacity 15 – 50 MW per station) and 64km, 36" gas pipeline loop

Scope: Engineering management as sub-consultant, responsible for coordination of multi-disciplinary design of compressor stations during various design phases.

Lead of HAZOP, HAZID, SIL and Risk Analysis for various compressor and metering stations and pipeline



Projects

BURGAS-ALEXANDROUPOLIS CRUDE OIL PIPELINE (BAP), BULGARIA, GREECE

Project Owner: Trans-Balkan Pipeline B.V.

Timeframe: 2008 - 2010

Key data about project: FEED Design of a new 275 km, 48" crude oil pipeline to transport 50 Mta Russian and Caspian crude from the Black Sea to the Mediterranean. System includes SPM unloading facility, offshore pipeline, Tank Farm and head pump station at Burgas, intermediate pump station, as well as Tank Farm, offshore pipeline and SPM loading facility at Alexandroupolis.

Scope: Engineering management as subcontract, responsible for system design and optimization, as well as coordination of multi-disciplinary engineering in Home Offices.



BAKU-TBLISI-CEYHAN (BTC) CRUDE OIL PIPELINE, TURKEY

Project Owner: BOTAS, Turkey

Timeframe: 2001-2006

Key data about project: Turkish section: 1,070 km, diameter: 46", 42", 34", design capacity: 50 Mt/a, 4 pump stations, 1 pressure control station, Ceyhan tank farm (7 x 150,000 m³) and jetty for 2 x 300,000 DWT tankers.

Scope: Engineering management as subcontract, responsible for pipeline and system detailed engineering and preparation of procurement packages, overall responsibility for interdisciplinary coordination of 50 company engineering staff located in four project offices and over 100 subcontractor engineers based in Ankara (300,000 man-hours), overall responsibility for quality and consistency of detailed engineering and procurement packages, comprising over 5,000 drawings and documents (including 20 procurement packages).



Projects

OTAHUHU COMBINED CYCLE POWER STATION, NEW ZEALAND

Project Owner: Siemens KWU

Timeframe: 1997 - 2000

Key data about project: 400 MW turnkey power plant, including 270 MW gas turbine, 130 MW steam turbine, heat recovery steam generator (110, 35, 8 bar)

Scope: Employer's Representative, responsible for monitoring Contractor construction activities and quality control of mechanical aspects of the turnkey power plant, including gas and steam turbines, heat recovery steam generator, hybrid cooling tower, balance of plant including demineralised water plant, fuel gas system, pressure vessels, station pumps and piping (including high pressure alloy steel steam pipework).



COGENERATION FACILITY UPGRADE, MANGERE WATER TREATMENT PLANT, NEW ZEALAND

Project Owner: Watercare Services Ltd.

Key data about project: Installation of 4 x 1.7MW digester gas / natural gas Jenbacher cogeneration sets and heat recovery systems at a waste water treatment facility.

Scope: Mechanical planning, responsible for design, specification, tendering, contract administration of biogas / natural gas engines package, plus associated power generation and heat recovery equipment. Also included in the scope of work was the upgrade of the existing digester gas compression facility and utilities, as well as installation of a new back-up natural gas supply to the site and negotiation of respective tariffs.



Projects

Recent Projects

- Peer Review of Iran-Pakistan Gas Pipeline
- Nabucco Gas Pipeline - Technical Integrity Review
- OMV - Permit engineering for gas pipeline and meter station
- TAL-OR - Planning of relocation of 26" crude oil pipeline section, including permitting
- Construction Supervision, Commissioning and Start-up Support for Bunde-Etzel Gas Pipeline (60 km, 48" diameter, PN 100 Design Pressure)
- Expert Witness services for pipeline damage claim, Teesside, United Kingdom
- EXELL Compressor Stations Project - Engineering Management for Concept Selection and Functional Design, including permitting of three compressor stations in North Germany
- HAZOP of CS Wardenburg, Rysum, Achim, Quarnstedt and Ellund for Gasunie
- Medupi Power Station, South Africa - Planning of LP Services for Hitachi Power, Germany
- Abu Dhabi Crude Oil Pipeline (ADCOP) - Follow-up HAZOP for EPC Contractor
- Technical Audit Services for OGC, Oman - Gas Supply Stations (GSS) and Pressure Limiting Stations (PLS)



About Us

- Callan Consultants was formed by Tim Callan (M.E.) in 1997, operating out of New Zealand and subsequently Ireland, carrying out industrial, power generation and pipeline projects.
- PipeSystemConsult GmbH (PSC) was incorporated in Munich, Germany in 2008 to provide flexible and cost-effective consulting services to clients in the pipeline, power generation and industrial sectors.
- PSC aims to assist clients to develop projects at the conceptual and feasibility stage. This includes preparation of main system and plant layout concepts, cost estimates, implementation schedule, financing, procurement and construction strategies. A key aspect is the approval and permitting requirements, including evaluation of HSE and project risks. Studies are carried out using in-house resources in close cooperation with client decision makers in order to meet project needs in a timely and cost-effective way.
- Through co-operation with affiliated engineering companies and leading industry experts, PSC is also able to set up multi-disciplinary project teams to provide tailor-made consulting services for medium to large size projects.



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